

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2008; month=1; day=30; hr=11; min=28; sec=17; ms=814; ]

=====

Application No: 10597945 Version No: 3.0

Input Set:

Output Set:

Started: 2008-01-25 22:19:38.069  
Finished: 2008-01-25 22:19:40.262  
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 193 ms  
Total Warnings: 19  
Total Errors: 0  
No. of SeqIDs Defined: 31  
Actual SeqID Count: 31

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)
W 213	Artificial or Unknown found in <213> in SEQ ID (26)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28)
W 213	Artificial or Unknown found in <213> in SEQ ID (29)
W 213	Artificial or Unknown found in <213> in SEQ ID (30)



# SEQUENCE LISTING

<110> KWAK, Sang-Soo  
KWON, Suk-Yoon  
LEE, Haeng-Soon  
RYU, Sun-Hwa

<120> MULTIPLE STRESS-INDUCIBLE PEROXIDASE PROMOTER DERIVED FROM  
IPOMOEA BATATAS

<130> 58049-00035

<140> 10597945

<141> 2008-01-25

<160> 31

<170> PatentIn version 3.5

<210> 1

<211> 3945

<212> DNA

<213> Ipomoea batatas

<400> 1

cctcatggag tattctcata actctcttca gtatgaatga atcatacaat acaacgcagc	60
gacgaataga cttcgccctg aactagacat acgacaacat agccaccata cgggaaaggc	120
acttcaagct ctttatcccg taggctgcaa caacataacg acataacgac cactgggcaa	180
gggcatttac agccaccgt gggtcfaatca aggtcctcct cactcacttt agaaactaag	240
ggtttgaaaa catgatcttt ccttcagttt ttcttacaac aaatcattca ctttggacac	300
atttcacaat tgagtcfaat acttaaaccg gctacttcat tagcccctga aggattttta	360
aaaaaacttt cactgcccgc aggtcttca aacatctttt cctcattatc aagtgaggca	420
ttttcctcaa aagtaagggt ttgacaacct ttatatcaaa atagcatacg tttttcaacg	480
taagtttcat aacatttact tgccatctca ccacttcgtc ttaaacaatc taggatattc	540
ttagatattc ttcatactca agtctcacac ttgaaatcaa tcaagactct tacactaaca	600
attcctcaat atacctcata atatcatctc tacttaaact agagagattt ccaactctca	660
attaatcacc aaaggtaact ctccaaatat ccaaattggaa ggtttcaact tccaaactaa	720
taccaaacca accggactaa tcataatcat attcataatc ataaattggt tctaactgcc	780
cctgtccaga aattacagtt ttgcgcagtc cgaaagattg agccggtaac aatagttccc	840
gaactctttt tcaactgaaa tttttatgggt agaaccctaa cttatagtac ttgatatcca	900
taaaaagttt tggtcaccta gggtcacgaa ttaacacaga aaattacatc tttgcccttg	960

gcagtgggct gtcggaatt ctgtctctct ggaccagttt tggcaaaca ttttgaaacc	1020
acacttatac tactccaaaa attatgaaat ttttatggta gcttctacac ttatagaact	1080
acatgtataa aaaatattgg gtcaaaatac cttaccgatt tttcccaaatt attcacggaa	1140
cttactgcc a gaatctaccc tgctttttcc tttcactatt ttcacaacta taagcatata	1200
tgggcataaa tatgacatga acatgcatga accaatgcag ggtgaaagta agattgaata	1260
tactgatact acaattaact aatgataaag tataactttt gtaaaaaatt tgattttttt	1320
ttttgatgaa ttcataact ccaaagattt tcctcattta attaaatttc tatcctcatg	1380
ttgaacccat taatcgaata attgacatat tagataaact tagccatcat atgacatttg	1440
atcatgattg atgattttta aaaaataaaa acaaaattat gaaagggtaa tgaaatat	1500
taaaaaaatt atgtaaaccc tgtaatctag taatctgtac aataataatt ttgtttcaac	1560
taagaggatg ttggcaaaag tataattaaa cttgtgatct tcgtacaata attatgcttc	1620
acgcactcaa ctagtcacat ctttccaggc aaaatttact tttctatgaa tatgagaagt	1680
tccatctatg gaaataacgg attatttatc taattttcaa attctatata tatagtctcg	1740
agtggaacaa aaatagaact aatttgaaca aatcaaagtc taagaaaata atacatgctt	1800
tagcagcaaa aataagaatg gtactatact taatcctcat catagtcttc aaccctgcat	1860
atagcacact taacatttta tattcaaata tactttaatt tagtcatgat aatacaactc	1920
acctactcca ttatagccga taatacaact cacctagcta ctccattata gtccaacaat	1980
atcaaatgaa taaaatagta atggtgactt aaagggtga atccaacata tattctgaca	2040
tttaaaaatg ctaacgtacg gttagattag tataatgaaa taaagttaat cattctctat	2100
atttgatgat ggtaattagt atcatggtaa ggtgttttat cgtggcagca tgagtgcag	2160
acaaacgcat atattattat taaaacaaaa tagtactcca atcataataa attatcttat	2220
attatattgc caacaattaa aaattcaaatt tagaacaatt taaatctcag tttgctttat	2280
tatattatta tcaacaataa taatttaata ctgatcgaag aactttccct ttcaagttct	2340
ctatttaagg aagcctgaga agccattaat cctcatcatc agctcgacca ctcatctctt	2400
cttcatactt cctttgctgt gataatcatc atcatggctt cctttgtcac tcggctcagc	2460
ctggccctta gcttcatcgc cctagcccta gctggcttct ccatttacca gaatacccat	2520
acagccatga aagggcagct taagctcacc ccaaagtggc tgctagacaa cactctagag	2580
tcgtcagtgg ccgacgtgct ctactacgc ctaggcatct cctccggcaa gctttccgac	2640

gaagactgca tattctccgc cgtaaggaa gtggtggacg ccgccattga tgcagaaacc	2700
cgcatgggtg cttccctcat tcgcctcttc ttccatgact gctttgttga tgtacgtacg	2760
ctaattttgt acgatgatgt tttttttttt tttttttttt ttcccactgc attatattag	2820
gaaattaaac agattgaaat gtgtgttatt aatgtattat ctgcagggtt gtgacgcagg	2880
tcttctacta aacgatacac ctactttcac cggagaacag accgccggcg gcaataataa	2940
ctcagtcaga ggttttgagg tgatacaaca agctaaagag aatgtgataa ccaaattgcc	3000
ctacatacaa gtatcttgtg ccgacatctt atccattgct gcccgtgatt ctttccagag	3060
agtaagtcca tttatttcta aaggttgaaa ttaataagaa caagaatcca aacaaataac	3120
agacagtaaa aaaaaaagat ttatgtgggt tgacaatatg ttgaaattgt ttttatattt	3180
aatgactagt atttatgcat tatatttata tgcaactcta aacatgcagt ttactggaga	3240
aacgtacacc gtgactctgg gaagactcga tgcaagaacg gcgaacctta ccggagctaa	3300
caccaactc gtcggacca aacgaggaatt ggcacgcaa gtcgagaaat ttgcggcgaa	3360
agggttctcc gaaacggagc tagtcgcctt gttaggtgtt cacacggttg ggttttcgag	3420
atgtccgctt ttatgcgttc ccattttcat caatcccgcc cgggcctcca cgctgcaatg	3480
caactgtccg gtgagtcctg acgacaccgg gctggtgggc ctggaccca ctccgttgac	3540
gtgggaccaa agtttttact ccgacgtggc taacggacaa gggcttctgt tctccgacaa	3600
cgagctgatg aatagcaaca ccaccagcgc cgccttagg aggtacagg acgagatgga	3660
cgcttttctc gccgatttcg ccgcgcctat ggtgaagatg agcctcctgc cgccgtcccc	3720
cggagtggag ctcgaaatcc gagaggtttg cagcgagggt aatgccaaca cagttgcatc	3780
catgtgaagt tcgttcccat cgacatcaat aacgtctgtg attctgtgaa agttttactc	3840
ggactgtgaa gaattttcac tttctgttgt ttctgaaata aaaaagattt tttttttatg	3900
tcctaacaaa acttgtatta ctgaataaaa tttataaatt tgtta	3945

<210> 2

<211> 110

<212> DNA

<213> Ipomoea batatas

<400> 2

tttccctttc aagttctcta ttttaaggaag cctgagaagc cattaatcct catcatcagc	60
--	----

tcgaccactc atttcttctt catacttcct ttgtgtgat aatcatcatc	110
---	-----

<210> 3

<211> 177  
 <212> DNA  
 <213> Ipomoea batatas

<400> 3  
 aaattaaatc tcagtttgct ttattatatt attatcaaca ataataattt aatactgatc 60  
 gaagaacttt ccttttcaag ttctctatct aaggaagcct gagaagccat taatcctcat 120  
 catcagctcg accactcatt tcttcttcat acttcctttg ctgtgataat catcatc 177

<210> 4  
 <211> 306  
 <212> DNA  
 <213> Ipomoea batatas

<400> 4  
 taagggtgtt tatcgtggca gcatgagtgc atgacaaacg catatattat tattaaaaca 60  
 aaatagtact ccaatcataa taaattatct tatattatat tgccaacaat taaaaattca 120  
 aattagaaca aattaaatct cagtttgctt tattatatta ttatcaacaa taataattta 180  
 atactgatcg aagaactttc cctttcaagt tctctattta aggaagcctg agaagccatt 240  
 aatcctcatc atcagctcga ccaactcattt cttcttcata cttcctttgc tgtgataatc 300  
 atcatc 306

<210> 5  
 <211> 306  
 <212> DNA  
 <213> Ipomoea batatas

<400> 5  
 taagggtgtt tatcgtggca gcatgagtgc atgacaaacg catatattat tattaaaaca 60  
 aaatagtact ccaatcataa taaattatct tatattatat tgccaacaat taaaaattca 120  
 aattagaaca aattaaatct cagtttgctt tattatatta ttatcaacaa taataattta 180  
 atactgatcg aagaactttc cctttcaagt tctctattta aggaagcctg agaagccatt 240  
 aatcctcatc atcagctcga ccaactcattt cttcttcata cttcctttgc tgtgataatc 300  
 atcatc 306

<210> 6  
 <211> 433  
 <212> DNA  
 <213> Ipomoea batatas

<400> 6  
 atggtgactt aaagggtga atccaacata tattctgaca tttaaaaatg ctaacgtacg 60

gtagattag tataatgaaa taaagttaat cattctctat atttgatgat ggtaattagt	120
atcatggtaa ggtgttttat cgtggcagca tgagtgcacg acaaacgcat atattattat	180
taaaacaaaa tagtactcca atcataataa attatcttat attatattgc caacaattaa	240
aaattcaaat tagaacaat taaatctcag tttgctttat tatattatta tcaacaataa	300
taatttaata ctgatcgaag aactttccct ttcaagttct ctatttaagg aagcctgaga	360
agccattaat cctcatcatc agctcgacca ctcatctctt cttcatactt cctttgctgt	420
gataatcatc atc	433

<210> 7  
 <211> 818  
 <212> DNA  
 <213> Ipomoea batatas

<400> 7	
gcttcacgca ctcaactagt cacatctttc caggcaaaat ttacttttct atgaatatga	60
gaagttccat ctatggaaat aacggattat ttatctaatt ttcaaattct atatatatag	120
tctcgagtgg aacaaaaata gaactaattt gaacaaatca aagtctaaga aaataataca	180
tgcttttagca gcaaaaaataa gaatggtagt atacttaatc ctcatcatag tcttcaaccc	240
tgcatatagc aactttaaca ttttatattc aaatatactt taatttagtc atgataatac	300
aactcaccta ctccattata gccgataata caactcacct agctactcca ttatagtcca	360
acaatatcaa atgaataaaa tagtaatggg gacttaaagg gctgaatcca acatatattc	420
tgacatttaa aaatgctaac gtacggtagt attagtataa tgaaataaag ttaatcatc	480
tctatatttg atgatggtaa ttagtatcat ggtaagggtgt tttatcgtgg cagcatgagt	540
gcatgacaaa cgcatatatt attattaaaa caaaatagta ctccaatcat aataaattat	600
cttatattat attgccaca attaaaaatt caaattagaa caaattaaat ctgagtttgc	660
tttattatat tattatcaac aataataatt taatactgat cgaagaactt tccctttcaa	720
gttctctatt taaggaagcc tgagaagcca ttaatcctca tcatcagctc gaccactcat	780
ttctttctca tacttccttt gctgtgataa tcatcatc	818

<210> 8  
 <211> 1199  
 <212> DNA  
 <213> Ipomoea batatas

<400> 8



atgcaggggtg aaagtaagat tgaatatact gatactacaa ttaactaatg ataaagtata	60
acttttgtaa aaaatttgat tttttttttt gatgaattca tatactccaa agattttcct	120
catttaatta aatttctatc ctcatgttga acccattaat cgaataattg acatattaga	180
taaacttagc catcatatga catttgatca tgattgatga tttttaaaaa ataaaaacaa	240
aattatgaaa gggtaatgaa atatttttaa aaaattatgt aaaccctgta atctagtaat	300
ctgtacaata ataattttgt ttcaactaag aggatgttgg caaaagtata attaaacttg	360
tgatcttcgt acaataatta tgcttcacgc actcaactag tcacatcttt ccaggcaaaa	420
tttacttttc tatgaatatg agaagttcca tctatggaaa taacggatta tttatcta	480
tttcaaattc tatatatata gtctcgagtg gaacaaaaat agaactaatt tgaacaaatc	540
aaagtctaag aaaataatac atgcttttagc agcaaaaaata agaatggtac tatacttaat	600
cctcatcata gtcttcaacc ctgcatatag cacacttaac attttatatt caaatatact	660
ttaatttagt catgataata caactcacct actccattat agccgataat acaactcacc	720
tagctactcc attatagtcc aacaatatca aatgaataaa atagtaatgg tgacttaaag	780
ggctgaatcc aacatatatt ctgacattta aaaatgctaa cgtacggtta gattagtata	840
atgaaataaa gttaatcatt ctctatattt gatgatggta attagtatca tggtaagggtg	900
ttttatcgtg gcagcatgag tgcattgaca acgcatatat tattattaaa acaaaatagt	960
actccaatca taataaatta tcttatatta tattgccaac aattaaaaat tcaaattaga	1020
acaaattaaa tctcagtttg ctttattata ttattatcaa caataataat ttaatactga	1080
tcgaagaact ttccctttca agttctctat ttaaggaagc ctgagaagcc attaatcctc	1140
atcatcagct cgaccactca tttctttctt atacttcctt tgctgtgata atcatcatc	1199

<210> 9

<211> 1467

<212> DNA

<213> Ipomoea batatas

<400> 9

ggctgtccgg aattctgtct ctctggacca gttttggcaa acaattttga aaccacactt	60
atactactcc aaaaattatg aaatttttat ggtagcttct acacttatag aactacatgt	120
ataaaaaata ttgggtcaaa ataccttacc gatttttccc aaatattcac ggaacttact	180
gccagaatct accctgcttt ttcccttcac tattttcaca actataagca tatatgggca	240
taaatatgac atgaacatgc atgaaccaat gcagggtgaa agtaagattg aatatactga	300

tactacaatt aactaatgat aaagtataac ttttgtaaaa aatttgattt ttttttttga	360
tgaattcata tactccaaag attttcctca ttttaattaaa tttctatcct catggtgaac	420
ccattaatcg aataattgac atattagata aacttagcca tcatatgaca tttgatcatg	480
attgatgatt tttaaaaaat aaaaacaaaa ttatgaaagg gtaatgaaat attttaaaaa	540
aattatgtaa accctgtaat ctagtaatct gtacaataat aattttggtt caactaagag	600
gatgttgga aaagtataat taaacttggtg atcttcgtac aataattatg cttcacgcac	660
tcaactagtc acatctttcc aggcaaaatt tacttttcta tgaatatgag aagttccatc	720
tatggaaata acggattatt tatctaattt tcaaattcta tatatatagt ctcgagtga	780
acaaaaatag aactaatttg aacaaatcaa agtctaagaa aataatacat gcttttagcag	840
caaaaataag aatggtacta tacttaatcc tcatcatagt cttcaaccct gcatatagca	900
cacttaacat tttatattca aatatacttt aatttagtca tgataataca actcacctac	960
tccattatag ccgataatac aactcaccta gctactccat tatagtccaa caatatcaaa	1020
tgaataaaat agtaatggtg acttaaaggg ctgaatccaa catatattct gacatttaaa	1080
aatgctaacg tacggttaga ttagtataat gaaataaagt taatcattct ctatatttga	1140
tgatggtaat tagtatcatg gtaagggtgtt ttatcgtggc agcatgagtg catgacaaac	1200
gcatatatta ttattaaaac aaaatagtac tccaatcata ataaattatc ttatattata	1260
ttgccaacaa ttaaaaattc aaattagaac aaattaaatc tcagtttgct ttattatatt	1320
attatcaaca ataataattt aatactgac gaagaacttt ccctttcaag ttctctattt	1380
aaggaagcct gagaagccat taatcctcat catcagctcg accactcatt tcttcttcat	1440
acttcctttg ctgtgataat catcatc	1467

<210> 10  
 <211> 1934  
 <212> DNA  
 <213> Ipomoea batatas

<400> 10	
ttgccatctc accacttcgt cttaaacat ctaggatatt ctagatatt cttcatactc	60
aagtctcaca cttgaaatca atcaagactc ttacactaac aattcctcaa tatacctcat	120
aatatcatct ctacttaaac tagagagatt tccaactctc aattaatcac caaaggtaac	180
tctccaaata tccaaatgga aggtttcaac ttccaaacta ataccaaacc aaccggacta	240
atcataatca tattcataat cataaattgt ttctaactgc ccctgtccag aaattacagt	300

tttgcgcagt cegaaagatt gagccggtaa caatagttcc cgaactcttt ttcacttgaa	360
atTTTTatgg tagaacccta acttatagta cttgatatcc ataaaaagtt ttggtcacct	420
aggttcacga attaacacag aaaattacat ctttgcctt ggccagtgggc tgtccggaat	480
tctgtctctc tggaccagtt ttggcaaaca attttgaaac cacacttata ctactccaaa	540
aattatgaaa tttttatggg agcttctaca cttatagaac tacatgtata aaaaatattg	600
gggtcaaaata ccttaccgat ttttccaaa tattcacgga acttactgcc agaactctacc	660
ctgctttttc ctttcactat tttcacaact ataagcatat atgggcataa atatgacatg	720
aacatgcatg aaccaatgca ggggtgaaagt aagattgaat atactgatac tacaattaac	780
taatgataaa gtataacttt tgtaaaaaat ttgatttttt tttttgatga attcatatac	840
tccaaagatt ttcttcattt aattaaattt ctatcctcat gttgaaccca ttaatcgaat	900
aattgacata ttagataaac ttagccatca tatgacattt gatcatgatt gatgattttt	960
aaaaaataaa aacaaaatta tgaaagggta atgaaatatt ttaaaaaaat tatgtaaacc	1020
ctgtaatcta gtaatctgta caataataat tttgtttcaa ctaagaggat gttggcaaaa	1080
gtataattaa acttgtgatc ttcgtacaat aattatgctt cacgcactca actagtcaca	1140
tctttccagg caaaatttac ttttctatga atatgagaag ttccatctat ggaaataacg	1200
gattatttat ctaattttca aattctatat atatagtctc gagtggaaca aaaatagaac	1260
taatttgaac aaatcaaagt ctaagaaaat aatacatgct ttagcagcaa aaataagaat	1320
gggtactatac ttaatcctca tcatagtctt caaccctgca tatagcacac ttaacatttt	1380
atattcaaat atactttaat ttagtcatga taatacaact cacctactcc attatagccg	1440
ataatacaac tcacctagct actccattat agtccaacaa tatcaaatga ataaaatagt	1500
aatgggtgact taaagggctg aatccaacat atattctgac atttaaaaaat gctaacgtac	1560
ggtagatta gtataatgaa ataaagttaa tcattctcta tatttgatga tggtaattag	1620
tatcatggta aggtgtttta tcgtggcagc atgagtgcac gacaaacgca tatattatta	1680
ttaaaacaaa atagtactcc aatcataata aattatctta tattatattg ccaacaatta	1740
aaaattcaaa ttagaacaaa ttaaattctca gtttgcttta ttatattatt atcaacaata	1800
ataatttaat actgatcgaa gaactttccc tttcaagttc tctatttaag gaagcctgag	1860
aagccattaa tcctcatcat cagctcgacc actcatttct tcttcatact tcctttgctg	1920
tgataatcat catc	1934

<210> 11  
<211> 2433  
<212> DNA  
<213> Ipomoea batatas

<400> 11  
cctcatggag tattctcata actctcttca gtatgaatga atcatacaat acaacgcagc 60  
gacgaataga cttcgccctg aactagacat acgacaacat agccaccata cgggaaaggc 120  
acttcaagct ctttatcccg taggctgcaa caacataacg acataacgac cactgggcaa 180  
gggcatttac agccaccggt ggggtcaatca aggtcctcct cactcacttt agaaactaag 240  
ggtttgaaaa catgatcttt ccttcagttt ttcttacaac aaatcattca ctttggacac 300  
atttcacaat tgagtccaat acttaaaccg gctacttcat tagccctga aggattttaa 360  
aaaaaacttt cactgcccgc aggtcttca aacatctttt cctcattatc aagtgaggca 420  
ttttcctcaa aagtaagggt ttgacaacct ttatatcaa atagcatacg tttttcaacg 480  
taagtttcat aacatttact tgccatctca ccacttcgtc ttaaacaatc taggatattc 540  
ttagatattc ttcatactca agtctcacac ttgaaatcaa tcaagactct tacactaaca 600  
attcctcaat atacctcata atatcatctc tactttaaact agagagattt ccaactctca 660  
attaatcacc aaaggtaact ctccaaatat ccaaattggaa ggtttcaact tccaaactaa 720  
taccaaacca accggactaa tcataatcat attcataatc ataaattggt tctaactgcc 780  
cctgtccaga aattacagtt ttgcgcagtc cgaaagattg agccggtaac aatagttccc 840  
gaactctttt tcaacttgaat tttttatggg agaaccctaa cttatagtac ttgatatcca 900  
taaaaagttt tgggtcaccta gggtcacgaa ttaacacaga aaattacatc tttgcccttg 960  
gcagtgggct gtccggaatt ctgtctctct ggaccagttt tggcaaacaa ttttgaaacc 1020  
acacttatac tactccaaaa attatgaaat ttttatggta gcttctacac ttatagaact 1080  
acatgtataa aaaatattgg gtcaaaatac cttaccgatt tttcccaaat attcacggaa 1140  
cttactgcca gaatctacct tgctttttcc tttcactatt ttcacaacta taagcatata 1200  
tgggcataaa tatgacatga acatgcatga accaatgcag ggtgaaagta agattgaata 1260  
tactgatact acaattaact aatgataaag tataactttt gtaaaaaatt tgattttttt 1320  
ttttgatgaa ttcataact ccaaagattt tcctcattta attaaatttc tctctcatg 1380  
ttgaacccat taatcgaata attgacatat tagataaact tagccatcat atgacatttg 1440  
atcatgattg atgattttta aaaaataaaa acaaaattat gaaagggtaa tgaaatattt 1500  
taaaaaaatt atgtaaacc tgtaatctag taatctgtac aataataatt ttgtttcaac 1560

taagaggatg ttggcaaaag tataattaaa cttgtgatct tcgtacaata attatgcttc	1620
acgcactcaa ctagtcacat ctttccaggc aaaatttact tttctatgaa tatgagaagt	1680
tccatctatg gaaataacgg attatttattc taattttcaa attctatata tatagtctcg	1740
agtggaacaa aaatagaact aatttgaaca aatcaaagtc taagaaaata atacatgctt	180